CONTRIBUTIONS FROM THE ROCKY MOUNTAIN HERBARIUM. X

NEW PLANTS FROM IDAHO[1]

AVEN NELSON

Carex owyheensis, n. sp.—Plants wholly glabrous, single or in small tufts from cormlike rootstocks with an abundance of fibrous roots: culm rather slender, inconspicuously striate, 3–5 dm. high: leaves bright green, few to several, mostly basal with one near the middle of the culm and one or two foliar bracts above, rather short and broad (5–15 cm. long and 6–12 mm. broad), flat, often with acute involute apex: spikes 3–5, in a capitate terminal cluster, and with one or two more or less remote spikes in the axils of foliar bracts, 12–22 mm. long; the bracts of the terminal cluster from lance-acuminate to broadly ovate and obtuse; terminal spike staminate above only: stigmas 3; perigynium membranous, not strongly nerved, narrowly ovate, tapering gradually into the beak which is shorter than the body, pale green with small reddish brown dots below and with the two short, rather soft teeth of the beak dark reddish brown, about 5 mm. long; scale ovate-oblong, obtuse, thin, the pale green center one-nerved, the margins dark reddish brown, much shorter than the perigynium: achene trigonous-ovoid.

This is probably nearest to *C. Raynoldsii* Dew. as regards the technical characters, but in the color and in the grouping of the terminal spikes it is suggestive of *C. viridis* Dew. and *C. multinoda* Bailey. It was secured by MACBRIDE at Silver City, in the Owyhee Mountains, in marshy ground, July 20, 1910, no. 442.

Calochortus cyaneus, n. sp.—Glabrous and somewhat glaucous, rather slender, 3–4 dm. high: bulb small, ovate to oblong, more or less covered with dead flaky scales as is also the base of the nearly straight stem: leaves 3–5, including the 1 or 2 floral ones, narrowly linear, involute, somewhat expanded at the sheathing base, 6–10 cm.

[1] The first paper dealing with the collections of Mr. J. FRANCIS MACBRIDE in Idaho appeared in BOT. GAZ. **52**: 261–274. 1911, where there is also a brief outline of the field work and the field covered.

long or the basal one longer: flowers disproportionately large: sepals narrowly linear-lanceolate, 5–6 cm. long, tapering very gradually into the slender tip, bluish green with green midrib and white scarious margins: petals obovate-cuneate (either narrowly or broadly), rather abruptly rounded into the short lanceolate acute tip, as long as or somewhat longer than the sepals, delicate in texture, pale blue with greenish tinge and a narrow green stripe from apex to the gland; gland small, within 5 mm. of the base, bordered at sides and apex with flat yellow hairs, the upper four-fifths of the petal wholly glabrous: anthers yellow, 12–14 mm. long, exceeding the filaments: capsule narrow, nearly as long as the sepals.

Probably most nearly related to *C. macrocarpus* Dougl., from which it is easily distinguished by its slender habit, color of flowers and anthers, and the nearly glabrate petal face. Secured by MACBRIDE on the dry slopes of the foothills of the Boise Mountains, June 18, 1910, no. 268.

Arabis arcoidea, n. sp.—Perennial from a low multicipital caudex surmounting the rather slender woody taproot: stems few to several, simple, slender, erect, 2–5 dm. high, including the long raceme, rather densely short-hirsute below, glabrate above, the pubescence simple or branched (not stellate): leaves entire, crowded-rosulate on the crowns, narrowly linear-spatulate, tapering gradually into the very slender base, 4–6 cm. long (including the base), grayish green with a dense substellate pubescence; stem leaves several, auriculate-clasping at base, smaller, linear, rather distant, gradually reduced to small glabrate bracts above: inflorescence, wholly glabrous: sepals oblong, obtuse, with greenish base and thin purplish tips: petals purplish to violet, spatulate, about 8 mm. long, twice as long as the sepals: stamens scarcely longer than the sepals: pods glabrous, narrowly linear (less than 1.5 mm. broad), 4–6 cm. long, arcuate spreading, on ascending pedicels 5–10 mm. long; seeds in one row, very thin, with wings more than half as broad as the body.

I am unable to refer this to any close ally. If one had only the young plants, one would refer it by reason of the aspect of the basal leaves to *A. canescens* Nutt., to which it may be somewhat related in spite of the very different pods and pubescence. Secured by MACBRIDE at New Plymouth, Canyon County, on dry sandy soils, May 21, 1910, no. 87.

Lupinus multitinctus, n. sp.—Strongly tufted, 4–7 dm. high: stems sparingly branched above, leafy above, the lower stem leaves and most of the root leaves wanting at maturity, from glabrate to minutely pubescent: leaves green, but silvery-silky below, and sparsely pubescent above; petioles slender, the radical and lower cauline several times longer than the leaflets, the uppermost about equalling the leaflets; leaflets 7–11, broadly linear, tapering to the acute ends, 3–5 cm. long: racemes rather slender, dense, 6–12 cm. long; flowers many colored, ranging from nearly white through various shades of yellow to pinks and purples, the individual flowers usually bi- or tri-colored, in 3–5-flowered verticils, on short pedicels which in fruit become 5–8 mm. long; bracts linear, nearly as long as the calyx, caducous: calyx appressed-silky, with thick spur as long as its tube, its lips merely short entire teeth: standard obscurely if at all pubescent, the blade orbicular, about 10 mm. broad, the short base spurred and extending to the base of the calyx spur; wings obovate-elliptic, very delicate, beautifully cross-veined on one side; keel narrow, its darker tip rather conspicuously extruded: pods broad and very flat, densely silvery-silky, with subappressed pubescence, 2–5-seeded.

This new member of the CALCARATI section will most readily be distinguished from the relatively few other spurred species by the beautiful and singular variation in colors shown by the flowers of even a single clump. Like the other members of the section, this shows a slight ciliolation on the middle of the keel. From *L. laxiflorus* Dougl. it may be distinguished by its entire calyx lobes and the more numerous and narrower leaves. No. 114, from steep, north slopes, near Big Willow, near Falk's Store, Canyon County, by MACBRIDE, is typical.

Lotus Macbridei, n. sp.—Glabrous perennial from a short narrowly conical taproot with enlarged crown and numerous semi-fleshy fibrous roots: stems slender and crowded on the crown, widely spreading, or prostrate with assurgent tips, 15–50 cm. long: leaves mostly trifoliate, the petioles 3–8 mm. long; leaflets narrowly oblong or oblanceolate, acute or obtuse, 6–16 mm. long; stipules resembling the leaves and about as large, oblong-lanceolate: flowers a pure yellow, in close almost capitate terminal clusters of 3–7: calyx campanulate, subsessile on the short obconical base,

its lobes narrowly linear-subulate, 2–3 mm. long, as long as the tube: petals obscurely dark veined, with pale claws; the standard about 1 cm. long, its blade suborbicular; the wings as long, obovate with short slender claw; the keel rather narrow, with broadly subulate tip: pods linear, straight, the sutures rather prominent, 20–25 mm. long and 2 mm. broad.

The first collection of this species was secured by MACBRIDE in 1909 and was indicated as new at that time. However, it was deemed wise to withhold publication until a full series of specimens could be secured. No. 227, collected June 7, 1910, is taken as the type. Its range seemed to be rather restricted, but it was found to be quite abundant on wet grassy bottom lands near Falk's Store, in Canyon County.

Astragalus adanus, n. sp.—Root rather large, woody, with branched subterranean crown: stems numerous, rather slender, glabrate, rather coarsely and few-striate, simple, 2–4 dm. high: leaves numerous, narrow, with 13–25 leaflets; the basal 15–20 cm. long including the long almost filiform petiole; cauline leaves shorter and with shorter and slightly stouter petiole; leaflets thin, from oblong to broadly obovate, 7–14 mm. long, glabrous above, sparsely appressed pubescent beneath; stipules short, scarious, ovate-lanceolate: racemes 1–3, few–several-flowered (5–15), axillary in the uppermost leaves on stout peduncles 10–18 cm. long, in fruit much surpassing the subtending leaves; flowers probably ochroleucous: calyx seemingly scarious in part, with scattering black hairs near the base: pod 1-celled, neither suture intruded, thick cartilaginous, the sutures rather prominent, somewhat flattened dorsally, narrowly ovoid with short-acuminate incurved compressed apex, at maturity distinctly cross-ribbed, about 1 cm. long.

This makes the fourth species in the section PECTINATI, the others being *A. pectinatus* (Hook.) Dougl., *A. Grayi* Parry, and *A. nudus* Wats. The leaflets in this species, as in the others, are indistinctly jointed to the rachis, but they are not linear. Since *A. nudus* has violet blue flowers, there seems to be no characters left upon which to rest RYDBERG'S genus *Ctenophyllum* (one of his 17 Colorado segregates of *Astragalus*) except the mode of leaf attachment. The cross-wrinkling of the pods crops out in others of the segregates as well.

The new member of this group comes from the Boise Hills, no. 260 by MACBRIDE, June 18, 1910. The name is based upon the name of the county, which is said to be of Indian origin.

Astragalus boiseanus, n. sp.—Tufted: stems several to many from a woody root, simple, erect, 2–4 dm. high, striate, sparingly appressed-pubescent or glabrate: leaves ascending or suberect, 5–10 cm. long (including the short petiole); leaflets 13–25, oblong, obtuse or slightly emarginate, with an obscure mucro, glabrate above, sparsely appressed strigose beneath, 10–15 mm. long: racemes short, crowded, few-flowered (5–10), on stout axillary peduncles which in fruit elongate to form a flat-topped corymb: calyx tubular, nigrescent, its short lobes subulate: pod stipitate, nearly straight, about 2 cm. long, abruptly acute or acuminate, suberect on the divaricate or ascending pedicel and stipe, the dorsum depressed and with a broad sulcus so intruding the suture as to form a two-celled pod, ventral suture prominent; stipe stoutish, 1 cm. or more long, twice to thrice as long as the calyx.

This has long been referred to *A. arrectus* Gray, to which indeed it is closely related, and the descriptions are alike in many particulars. The plant proposed as new, however, may readily be distinguished by its stouter habit, its shorter leaves and fewer leaflets, its crowded flat-topped appearance in fruit, and more unerringly by the long stipes. In *A. arrectus* the stipe and calyx are subequal, and the more numerous pods in the slender fruiting raceme are more or less appressed to the rachis. Wholly typical of GRAY'S species and nicely representing it are C. V. PIPER'S specimens as follows: Pullman, Wash., July 3, 1903; Palouse Hills, June 30, 1897.

The segregate seems to be the commoner form, and apparently its range is from southern Idaho to Utah and Arizona, but as one may readily be mistaken about specimens in blossom only, I cite only fruiting specimens: C. N. WOODS, no. 4, Caldwell, Idaho, May 1910; FRANCIS MACBRIDE, no. 257, Boise hills, June 18; no. 112 (type), Big Willow, May 27, 1910. The much earlier date at which *A. boiseanus* matures indicates its distinctness from *A. arrectus*.

Astragalus Booneanus, n. sp.—Acaulescent, the woody root with several to many crowns: leaves 6–9 cm. long, crowded on the crowns, hoary with a soft dense tangled (rather than appressed) pubescence, on petioles from one-half to nearly as long as the blade; leaflets 13–21, linear-lanceolate or narrowly oblong, 1 cm. or less long, the lower often alternate: scapes shorter than the leaves, capitately few-flowered: calyx tubular; the tube about 1 cm. long, soon distended by the pod and at length deciduous; its teeth linear, 3 mm. long: corolla violet or purple, the standard 20–25 mm. long,

the blade ovate, the claw broad, channeled or folded, tapering gradually to the base, much longer than the blade; wings oblong, much shorter than the slender claw; the very narrow claws of the keel petals twice as long as their blades: pod thick-coriaceous, obcompressed, ovate, curved, the impressed dorsal suture nearly or quite meeting the ventral, white-hoary with a long soft dense tangled pubescence which is persistent.

This has passed for *A. glareosus* Dougl. and is another case in which species are difficult to distinguish by descriptions alone. These two may be at once separated, however, by the character of the pubescence. In *A. glareosus* it is silky with incumbent appressed hairs, while in *A. Booneanus* it is much denser, looser, and tangled. The pods also are distinguishing in that in the former they are glabrate at maturity; in the latter the shaggy pubescence is permanent.

The species rests upon several very representative collections as follows: President W. J. BOONE, of the College of Idaho, at Caldwell, no. 2, in whose honor the species is named; C. N. WOODS, supervisor Sawtooth National Forest, Hailey, nos. 5 and 25*a*; MERRILL and WILCOX, Leckie, Wyo., no. 583; and J. FRANCIS MACBRIDE, Falk's Store, Idaho, no. 57.

LIGUSTICUM TENUIFOLIUM **dissimilis,** n. var.—What is at least an interesting variety of this species was secured by MACBRIDE in his no. 677, from the Trinity Lake region, August 29, 1910. At first glance one would not suspect any close relationship, but the technical characters show that size and aspect may be misleading. The following points may be enough to distinguish this variety:

Stem naked except for one or at most two reduced bractlike leaves near the inflorescence, 3–5 dm. high: leaves bright green, ternate then pinnate, 1–2 dm. long; petiole one-third to one-half the length; leaflets narrowly to broadly ovate, 15–25 mm. long, pinnately cleft into linear-lanceolate lobes 8–14 mm. long: rays 9–14, 25–40 mm. long; pedicels 8–12 mm. long: fruits essentially as in the species but larger, with longer and stouter stylopodium.

Cornus instoloneus, n. sp.—*Cornus stolonifera* of authors as to western and intermountain specimens; *Suida stolonifera riparia* Rydb. Bull. Torr. Bot. Club **31**:573. 1904; *Suida riparia* in herb; not *Cornus riparia* Rafin.

MACBRIDE having collected a fine series of specimens of this well known species, it became necessary, before labeling for distribution, to look into its present nomenclatural standing. In doing so the writer became convinced that RYDBERG is right in separating the eastern and the western forms. Not only is the western one not stoloniferous, but the leaf distinction is even stronger than as stated by RYDBERG. In the eastern plant the veins are large and cord-like, and appear singularly superficial, a character that does not appear at all in any one of the numerous western specimens examined.

Sambucus ferax, n. sp.—*S. glauca* Nutt. in part. So much has been written on *S. glauca*, and the descriptions by SARGENT (*Man. trees N. Am.* p. 807. 1905) and by BRITTON (*N. Am. trees*, p. 852. 1908) are so full that the plant here proposed as a segregate may best be discriminated by contrast:

It is always a shrub (never treelike) 1–2 dm. high, rarely more: it blossoms and fruits on the season's shoots which have sprung up from the ground as well as on the shoots from the shrubby stems (*S. glauca* is a tree with definite trunk and rounded top): the twigs are glabrous from the first, not pubescent; the pith is slightly brownish, not white: the leaves are smooth from the first and green, not yellowish green: the lanceolate-acuminate leaflets are 7–11, not 5–9, and the teeth are not callous-tipped; they also average much longer, being frequently 15 cm. or more long: the inflorescence is mostly very large, often 3 dm. broad instead of half that size; instead of a single terminal 5-rayed peduncle there are usually or often three 5-rayed peduncles: the flowers are distinctly larger, often 6–7 mm. instead of 3 mm. broad: the fruit is borne in the greatest abundance and seems to observe no regular season, flowers being still seen in great profusion when the first fruits are wholly mature.

The above differences seem sufficient to warrant separating one of the interior shrubby forms from the tree form of the Pacific states. That all the shrubs of the interior should be so separated, I am not prepared to say, but it will not be surprising if careful field study shows that the shrub so common in the interior mountain states is also distinct as well as the one here considered.[2]

The type is MACBRIDE'S no. 631 from Trinity, on moist slopes, August 23, 1910, when flowers and fruit were both abundant. The large handsome glaucous berries are excellent for pies or jelly.

[2] Since writing these notes, I have received a copy of M. E. JONES' paper in which the shrub here referred to is published as *S. decipiens* Jones, Bull. Univ. Montana, Biol. Series **15**: 46. 1910.

EUPATORIUM OCCIDENTALE **decemplex,** n. var.—Tufted, the slender stems from the branches of the rhizomatous woody caudex, 3–5 dm. high, pale, slightly puberulent: leaves alternate, rather numerous above, smaller, more distant downward or wanting at base, bright green, thin, obscurely scabro-puberulent, ovate, obtuse or acute, rounded or broadly cuneate at base, short-petioled, rather strongly reticulate veined below, entire to rather coarsely dentate: heads several–many, in a short foliose narrow cymose panicle, puberulent on the bracts and pedicels: involucre tubular-campanulate, 3–4 mm. high, barely half as high as the disk; its bracts linear-oblong, subacute, about 10 and the flowers about the same number, scarcely striate (a midrib and sometimes a pair of faint nerves): corolla rose color, narrowly tubular, about as long as the few scabrous (about 20) pappus bristles and longer than the linear 5-nerved brown achenes.

I have characterized in detail because descriptions of the species available in the manuals are either too brief or else have been gradually so modified as to include some of the forms that seem worthy of being listed separately. The variety here proposed differs primarily in its slender stems, thin bright-green leaves, and the marked uniformity in the number of involucral bracts and rose colored flowers (ten of each). The original collections of the species had 15–25 bracts with white or ochroleucous flowers of about the same number as the bracts.

The more southern form of this, which has so long passed as a variety of *E. occidentale*, is well worthy of specific rank, and I wish so to list it here.

Eupatorium arizonicum (Gray), n. sp.—*E. occidentale arizonicum* Gray, Syn. Fl. **1**:101. 1886. This is at once distinct by its aspect, the stoutish stems, more or less branched from the base up, the thickish pale leaves with rather indistinct venation, and more particularly by the several corymbose-cymose clustered whitish flowers on the more or less elongated branchlets, giving a corymbose effect to the whole inflorescence. The leaves are opposite and fairly uniformly truncate-subcordate to deeply cordate at base.

E. arizonicum is far more closely allied to *E. ageratoides* than to *E. occidentale*. This species seems to range from New Mexico to Arizona and north into Nevada and Utah.

Macronema aberrans, n. sp.—Roots woody, rather slender, creeping in rock crevices, their crowns more or less branched: stems

herbaceous, slender, erect, only 5–10 cm. high, glandular-pubescent: leaves granular-glandular-viscid, obovate or oblong or broadly oblanceolate, the blades 1–3 cm. long, obtuse or subacute, mostly sparsely cuspidate-toothed on margin; the lower tapering cuneately into a slender petiole as long as the blade: heads 1–4, 9–14 mm. high, subsessile and subtended by the upper leaves and bracts; involucral bracts broadly linear, in 3 or 4 rows, acute and subcuspidate, green and glandular-viscid at apex, pale and carinate at base: rays wanting; disk flowers numerous, slender: achene cylindric-fusiform, pubescent, about 3 mm. long, about one-third as long as the corolla, which barely exceeds the scabrous pappus.

With the admission of *M. grindelioides* Rydb. and now this species to the genus *Macronema*, the characters of the genus must be modified so as to include toothed as well as entire leaves, and the involucral bracts in even 3–4 series.

No. 641, by MACBRIDE, from Trinity Lake region, Elmore County, August 27, 1910, is the type.

Machaeranthera magna, n. sp.—Grayish-tawny with a minute puberulence and granular-viscid, more strongly upward: stems stout, few to several from a stout biennial root, branched upward and leafy, naked below, 5–10 dm. high: leaves linear, very numerous, more or less involute, 1–3 cm. long, abruptly apiculate with a minute white cusp, margins entire or occasionally a few scattering larger leaves occur and these are sparsely few-toothed: heads numerous on the branched upper half of the plant, terminal and racemosely or spicately disposed on the branchlets, subtended by several foliar bracts: involucre broadly turbinate, 8–10 mm. high, almost as broad, shorter than the disk; its bracts in several series, erect at first but the dark tips at length squarrose or reflexed, minutely white-puberulent and viscid: rays 15–20: achenes densely short-pubescent, shorter than the fuscous pappus which equals the corolla.

At first glance one might think this a gigantic *M. viscosa* Greene if it were not for the small multitudinous linear evidently pubescent leaves, and the unusual viscosity which extends to most of the plant instead of a part of the inflorescence only. The involucral bracts too are more numerous, less reflexed, and only acute (not acuminate).

Type from the sandy bottom lands on the Payette River, near Falk's Store, September 5, 1910, no. 729.

ERIOPHYLLUM GRACILE (Hook.) Gray.—This was listed by PIPER in his *Flora of Washington* as a synonym of *E. integrifolium* (Hook.) Greene (*E. multiflorum* [Nutt.] Rydb.). This he apparently did simply because no one until now has again collected it since TOLMIE'S original specimens, from somewhere in the Snake River country, were secured. MACBRIDE'S no. 137 seems to perfectly represent *E. gracile* as originally described, and I therefore suggest that this name must be retained.

Carduus magnificus, n. sp.—Biennial, very tall (1–2 m.) and strict, moderately stout, or rather slender: stem purplish, often strikingly so, strongly striate, moderately pubescent with long flat jointed straggling hairs, very leafy: leaves glabrate above, tomentose beneath, broadly linear in outline, 1–3 dm. long, the bordered midrib 7–15 mm. wide, the rather numerous spinous pinnae 12–25 mm. long, 1–3-lobed or parted, the lobes mostly lanceolate or broader: heads few to several, racemosely disposed on short branchlets successively shorter to sessile above, 4–6 cm. high and broad, subtended by several to many linear purplish foliar bracts which often well surpass the heads: involucral bracts numerous, in several series, green but sparsely pubescent on the margins; the outer with rather weak spines; the inner with elongated, dilated, crimped or fringed tips: flowers a rich purple, very numerous and slender; corolla tube scarcely as long as the limb which is cleft halfway into 5 filiform lobes: styles well exserted: achenes 5–6 mm. long, narrowly oblong or linear-spatulate, brown, glabrous or almost polished, the conspicuous stylophore encircled by a raised yellowish white collar-like border: pappus bristles very soft, sparsely and delicately plumose except the tips.

This falls into the section ECHINAIS Cass, DC., and the section CARLINOIDES of RYDBERG'S Colorado list, but it evidently is not closely related to any of the species heretofore known. MACBRIDE reports this plant as scattering on a wet saline flat near Falk's Store, Canyon County, Idaho. No 271, June 22, 1910, is the type.

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